UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,171	08/07/2003	Ruth Amaru	SVL920060529US1	2915

49330 7590 11/23/2009

DUKE W. YEE
P.O. BOX 802333
YEE & ASSOCIATES, P.C.
DALLAS, TX 75380

EXAMINER	
NGUYEN, TAN D	
ART UNIT	**PAPER NUMBER**
3689	

NOTIFICATION DATE	DELIVERY MODE
11/23/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptonotifs@yeeiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/637,171	AMARU ET AL.	
	Examiner	Art Unit	
	Tan Dean D. Nguyen	3689	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *49-139* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49-139* is/are rejected.

7)☒ Claim(s) *50-62,96-99 and 119-122* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 6/8/09 has been entered.

Claims Status

2. Claims 49-139 are pending. Claims 1-48 have been canceled. Claims 49, 66-67, 72, 95 have been amended. Claims 96-139 are new. They comprise 3 groups:

1) method: 49-94,

2) computer program product (CRP): 95-115, and

3) system: 116-139.

Due to simplicity, system claim will be examined first.

As of 6/8/09, claim 116 is as followed:

116. (New) A system, implemented in a data processing system, for interactively viewing enterprise metadata, the system comprising:

a) a first mechanism for providing a data structure in the form of a directed graph, with nodes of the directed graph representing asset metadata for enterprise data assets and directed edges of the directed graph between nodes representing relationships between the asset metadata, wherein a single directed edge from a first node of the directed graph to a second node of the directed graph indicates that the first node belongs to the second node, and wherein a pair of directed edges in both directions between the first node and the second node indicates a mapping between the first node and the second node;

b) a second mechanism for displaying at least one path within the directed graph, the at least one path generated using a path finder tool, wherein the at least one path satisfies prescribed constraints defined in a query; and

c) a third mechanism for generating a report about the directed graph, wherein the report consists of asset metadata that correspond to the nodes traversed in the at least one path generated by the path finder tool.

Note: for convenience, letters (a)-(c) are added to the beginning of each step.

49. (Currently Amended) A method, implemented in a data processing system, for interactively viewing enterprise metadata, comprising:

a) providing a data structure that is stored in a memory in the form of a directed graph, with nodes of the directed graph representing asset metadata for enterprise data assets and directed edges of the directed graph between nodes representing relationships between the asset metadata, wherein a single directed edge from a first node of the directed graph to a second node of the directed graph indicates that the first node belongs to the second node, and wherein a pair of directed edges in both directions between the first node and the second node indicates a mapping between the first node and the second node;

b) displaying, on a display, at least one path within the directed graph, the at least one path generated using a path finder tool, wherein the at least one path satisfies prescribed constraints defined in a query; and

c) generating a report about the directed graph, wherein the report ~~is based on paths generated by said path finder,~~ is displayed on the display and consists of asset metadata that correspond to the nodes traversed in the at least one path generated by the path finder tool.

Finding of Facts

1) the term "memory" is defined as:

a : a device (as a chip) or a component of a device in which information especially for a computer can be inserted and stored and from which it may be extracted when wanted; *especially* **:** RAM **b :** capacity for storing information <512 megabytes of memory>

Memory: "A device where information can be stored and retrieved. In the most general sense, memory can refer to external storage such as disk drives or tape drives; in common usage it refers only to the fast semiconductor storage (RAM) directly connected to the processor." Computer Dictionary, 3rd Edition, Microsoft Press, Redmond, WA, 1997.

2) the term "display" is defined as:

Function: *noun*
Usage: *often attributive*
Date: 1665
1 a (1) **:** a setting or presentation of something in open view <a fireworks display> (2) **:** a clear sign or evidence **:** EXHIBITION <a display of courage> **b :** ostentatious show **c :** type, composition, or printing designed to catch the eye **d :** an eye-catching arrangement by which something is exhibited <a display of artifacts> —often used with *on* <her early paintings are currently on

display> **e :** an electronic device (as a cathode-ray tube) that presents information in visual form; *also* **:** the visual information.

3) The term "mechanism" is defined as:
Main Entry: **mech·a·nism**

Function: *noun*

Date: 1662

1 a : a piece of machinery **b :** a process, technique, or system for achieving a result
2 : mechanical operation or action **:** WORKING 2
3 : a doctrine that holds natural processes (as of life) to be mechanically determined and capable of complete explanation by the laws of physics and chemistry
4 : the fundamental processes involved in or responsible for an action, reaction, or other natural phenomenon — compare DEFENSE MECHANISM

Merriam-Webster Online. 1 October 2009
<http://www.merriam-webster.com/dictionary/display>

APA Style
display. (2009). In *Merriam-Webster Online Dictionary*.
Retrieved October 1, 2009, from http://www.merriam-webster.com/dictionary/display

Principles of Laws

3. A citation of "A method, implemented in a data processing system", in the preamble is noticed but the preamble is considered as "capable of" or "optional" and is not given much patentable weight. The preamble is normally considered "being optional" and does not have much patentable weight since many times it is merely statements of purpose or intended use. See MPEP 2111.02 It's the body of the claim that matters and the current body of the claims have no tie to any particular machine. *Corning Glass Works,* 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention,

rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) ("where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation"); *Kropa v. Robie*, 187 F.2d at 152, 88 USPQ2d at 480-81 (preamble is not a limitation where claim is directed to a product and the preamble merely recites a property inherent in an old product defined by the remainder of the claim); *STX LLC. v. Brine*, 211 F.3d 588, 591, 54 USPQ2d 1347, 1350 (Fed. Cir. 2000) (holding that the preamble phrase "which provides improved playing and handling characteristics" in a claim drawn to a head for a lacrosse stick was not a claim limitation).

4. Note: that it appears that independent claim **116** is an apparatus claim. In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114. *In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997*). Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. vs. Bausch & Lomb Inc. (Fed. Circ. 1990). Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be

employed/used, does not differentiate apparatus from the prior art apparatus. *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

Also, this is an apparatus claim and intended use limitation for the system/device or apparatus, i.e. "…, for interactively viewing enterprise metadata" in the preamble, " … **for** providing a data structure…" in element (a) above, "…**for** displaying at least one path…" in element (b), and "**for** generating a report…" in element (c), carry no patentable weight in an apparatus claim.

Similarly, in independent article claim 95, the phrases "for providing …", "for displaying …", and "for generating a report…", in the 3 main steps are also considered as "intended use" of the "computer usable program code", and thus having no patentable weight.

NOTE: Exemplary claim language of an ideal computer system/machine tied to a program is given as follows:

A computer-readable storage medium having stored thereon a computer program for "*xxxx*", the computer program comprising a routine set of instructions which when executed by a computer machine cause the computer machine to perform the steps of:

a) providing a …..,

b) displaying …, and

c) …..*xxxx*".

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 49-94 (method) and 95-115 (CRP) are rejected under 35 U.S.C. 101. Based on Supreme Court precedent and recent Federal Circuit decisions, the Office's guidance to an examiner is that a § 101 process must:

(1) be tied to a particular machine or apparatus or

(2) transform underlying subject matter (such as an article or materials) to a different state or thing. See Diamond v. Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780, 787-88 (1876).

(a) To qualify as a § 101 statutory process, the claim should recite the particular machine or apparatus to which it is tied, for example by identifying the machine or apparatus that accomplishes the method steps, or positively reciting the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

(b) There are two corollaries to the machine-or-transformation test. **First**, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent-eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. **Second**, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a

specific article in an insignificant step, such as data gathering or outputting, is not sufficient to pass the test.

(c) Here, applicant's method steps fail the first prong of the new test because the 3 steps of "providing a data structure", "displaying on a display", and "generating a report" have no tie to a particular machine or computer or processor. As for the phrase "data structure that is stored in a memory", this is passively written on an object of the providing step which does not have a whole lot of patentable weight in a method claim which normally requires active positive step, furthermore, the only alleged indirect tie is directed to insignificant extra solution activities and is insufficient to render the otherwise ineligible process claim as statutory. Also the limitation of "on a display" is not a particular machine or computer or processor but can be a sheet of paper or a board. the step of "generating a report" need not be performed by any particular structure. It may be accomplished simply by writing the report (information about a task or project) on a piece of paper. A conclusion that such post-solution activity is sufficient to impart patentability to a claim involving the solving of a mathematical algorithm would exalt form over substance. This step is, therefore, insufficient to impart patentability to a claim involving the solving of a mathematical algorithm.

(d) Further, applicant's method steps fail the second prong of the test because the claimed steps do not result in an article being transformed from one state to another. There is no transformation occurring in the claims for a physical object or substance or data that represents physical objects or substances.

The recitation in the preamble of "[A] method, implemented in a data processing system", adds nothing more than a general purpose data processing system or computer that is associated with the steps of the process in an unspecified manner. Such a field-of-use limitation is insufficient to render an otherwise ineligible process claim patent eligible. *Bilski,* 545 F.3d at 957, citing *Diehr,*450 U.S. at 191-92 (noting that eligibility under § 101 "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment."). This recitation, therefore, fails to impose any meaningful limits on the claim's scope. Furthermore, the preamble is considered as "being capable of" and thus having no patentable weight. Also, the term "system" also reads on software components and thus are not apparatus or machine per say.

The steps of process claims 49 and 95 also fail the second prong of the machine-or-transformation test because the report (or information or data) does not represent physical and tangible objects. Rather, the report represents information about a graph, an intangible object. There are no transforming the underlying subject matter (such as an article or materials) to a different state or thing.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 95-115 (computer program product) are rejected under 35 U.S.C. 101** because the claimed invention is directed to non-statutory subject matter.

The claimed invention does not fall within at least one of the four categories of patent eligible subject matter recited in 35 U.S.C. 101 (process, machine, manufacture, or composition of matter) because claims 95-115 are directed to a:

1) "computer-readable product having computer usable program code stored in a computer readable storage medium for interactively viewing metadata, the computer program product comprising: a first computer usable program code for …,"

which is deemed software *per se*, and therefore considered disembodied functional descriptive material. A computer software application *per se* does not define any structural and functional interrelationships between the computer application and other claimed elements of a computer which permit the computer application's functionality to be realized.

Or 2) "***Logic*** embodied in a computer readable medium, the computer readable medium comprising code operable to: ….",

which is deemed software *per se*, and therefore considered disembodied functional descriptive material or nonfunctional descriptive material (NFDM). A computer software application *per se* does not define any structural and functional interrelationships between the computer application and other claimed elements of a computer which permit the computer application's functionality to be realized. The NFDM (logic) is merely carried by the medium. Merely claiming NFDM stored in a computer-readable medium does not make it statutory.

NOTE: Exemplary claim language of an ideal computer system/machine tied to a program is given as follows:

A computer-readable storage medium having stored thereon a computer program for "*xxxx*", the computer program comprising a routine set of instructions which when executed by a computer machine cause the computer machine to perform the steps of:

a) providing a …..,

b) displaying …, and

c) …..*xxxx*".

9. Claims 116-139 (system) are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Note: that it appears that independent claim 116 is an apparatus claim. In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114. *In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997*). Apparatus claims cover what a device is, not what a device does. Hewlett-Packard Co. vs. Bausch & Lomb Inc. (Fed. Circ. 1990). Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be employed/used, does not differentiate apparatus from the prior art apparatus. *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

Also, this is an apparatus claim and intended use limitation for the system/device or apparatus, i.e. "for interactively viewing enterprise metadata" in the preamble, " **for**

providing a data structure…", "**for** displaying at least one path…", "**for** generating a report…" in the steps of the claims carries no patentable weight.

It is first important to note that the use of the term "mechanism" leaves open to interpretation whether "mechanism" is a device or a software component. *See In re Comiskey,* 499 F.3d 1365, at 1379 (Fed. Cir. 2007). However, current claim 116 only describes each of the different mechanism using functional language, i.e., a mechanism for providing…, without tying such descriptions to positive claim language, such as produced when one uses the term "configured" or, even more positively, 35 U.S.C. 112, sixth paragraph language. Unlike the machine claim in *Prater* which used means plus function language to describe its device, *see Prater* at 1397-1398. Current claim 1 does not use such language, and thus should not be given the same interpretation of the machine claim in *Prater.* To do so would be to dilute the provisions of the statute.

As indicated above, the term mechanism can mean:

> **1 a :** a piece of machinery **b :** a process, technique, or system for achieving a result
> **2 :** mechanical operation or action **:** WORKING 2
> **3 :** a doctrine that holds natural processes (as of life) to be mechanically determined and capable of complete explanation by the laws of physics and chemistry
> **4 :** the fundamental processes involved in or responsible for an action, reaction, or other natural phenomenon — compare DEFENSE MECHANISM

Current claims 116-139 comprise a plurality of mechanism which can read over software components. There are no citations of an apparatus or structural elements or devices such as processor or computer or computer server.

10. Claims 116-139 are rejected under 35 U.S.C. 101 because the claimed invention is directed to more than one class of statutory subject matter.

The independent claim 116 begin by discussing a system (apparatus) comprising 3 elements such as a first mechanism, a second mechanism, and a third mechanism, etc., but the body of the claim contains method steps, “representing”, “indicates”, “satisfies”, “correspond”, etc, or respectively use language that is used in the claims of a method. "A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only". See Ex parte Lyell (17 USPQ2d 1548).

Similarly, dep. claims 117-139, which contain many method steps such as: “is accessed”, “describing”, “comparing”, “satisfies”, displaying”, "correspond”, “comparing”, “are expressed”, "enforces”, “are mapped”, “indicates”, etc, respectively use language that is used in the claims of a method. "A claim of this type is precluded by the express language of 35 USC 101 which is drafted so as to set forth the statutory classes of invention in the alternative only". See Ex parte Lyell (17 USPQ2d 1548).

Claim Rejections - 35 USC § 112

11. **Claims 49-94 (method), 95-115 (CRP) and 116-139 (system)** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) In independent claims 49 and 95, the amended phrase of " providing a data structure that is stored in a memory in the form of a directed graph, with nodes …and

the second node" is vague and indefinite because it's not clear how can one store a "data structure" in a memory in the form of a directed graph?

2) In independent claims 49, 95, and 116, it's not clear the relationship of the 1st 2 steps or elements? What happens to the "provided data structure" or the result of step (a)? Is it being displayed in the next step of "displaying…"? Also, it's considered as being incomplete for omitting essential functional cooperative relationships of steps or claim elements in an apparatus claim, such omission amounting to a gap between the necessary functions/steps connections. See MPEP § 2172.01.

12. **Claims 116-139** (system) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) ***Claims 116-139*** are vague and indefinite since the apparatus claim 1 uses "method steps" such as "representing", "indicates", "satisfies", "correspond", etc, or respectively use language that is used in the claims of a method, as shown above in an apparatus claims. See IPXL Holdings. Va. Amazon.com (Fed. Circuit 2005). System claim that includes a method step is invalid as indefinite since it's not clear what is the scope of the apparatus claim.

Note: In examination of the apparatus claim, the claims must be structurally distinguishable from the prior art. While features of an apparatus claim may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See (1) MPEP 2114. (2) *In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997*).

Apparatus claims cover what a device is, not what a device does, i.e. “device which acts or performs ...". (3) *Hewlett-Packard Co. vs. Bausch & Lomb Inc. (Fed. Circ. 1990).* Manner of operating the device or elements of the device, i.e. recitation with respect to the manner in which a claimed apparatus is intended to be employed/used, does not differentiate apparatus from the prior art apparatus. (4) *Ex parte Masham*, 2 USPQ2d 1647 (BPAI, 1987).

13. In claims **49-94 (method), 95-115 (CRP) and 116-139 (system)**, it’s unclear whether any functional antecedence basic exists for the following actions (verb + ed) in these phrases in the independent claims and dependent claim of the 3 groups:

1) "data structure that is stored in a memory…”,

2) "a directed graph”, “directed edges”,

3) “one path generated using a path finder tool”,

4) “path satisfies prescribed constraints defined in a query…”,

5) “to the nodes traversed in the at least one path generated by ...",

6) “…prescribed modification..”,

7) “one prescribed business rule..”,

8) “displaying displayed asset metadata...",

9) “report indicates indicated metadata…”,

, so that proper patentable weight can be given in a claim which normally requires active/positive citation.

Claim Objections

14. Claims 50-62, 96-99, 119-122 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

1) Current independent claim 49 has "a **generated report** about the directed graph, wherein the report, is displayed on the display and consists of asset metadata that correspond to the nodes traversed in the at least one path generated by the path finder tool. In other word, there is a report no. 1 generated from the steps above. It's not clear how a "**second report**" with "**different issues** "of at least one prescribed modification to a portion of the asset metadata" further limit report no. 1 of claim 49 with different features cited in claim 49? As indicated in the rejection above with respect to the "lack of proper functional antecedence basic", there is no step calling for "modifying the portion of the asset metadata" in report no. 1 of claim 49, so without modifying the report no. 1 in claim 49, any other additional reports would not further limit the scope of claim 49.

2) Dependent claims 51-62, which have similar issues shown in dep. claim 49 above, are objected for the same reasons set forth above.

3) Dep. claims 96-99 (parts of 95), which have similar limitations as dep. claims 50-54 (part of 49), are objected for the same reasons set forth above.

4) Dep. claims 119-122 (parts of 116), which have similar limitations as dep. claims 50-54 (part of 49), are objected for the same reasons set forth above.

5) Dep. claims 89-91 (parts of 49), which deal with "restricting a user's access" issue, it's not clear how these limitations further limit claim 49 which has no citation with respect to "a user" and "access" issue and only displaying a graph and report about a graph?

6) Dep. claims 92-94 (parts of 49), which deal with "displaying different parts of the asset metadata" to "different types of users" issues, it's not clear how these limitations further limit claim 49 which has no citation with respect to "a user" and "access" issue and only displaying a graph and report about a graph?

Claim Rejections - 35 USC § 112

15. Claims 49-139 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) In independent claims 49 and 95 and 116:

it's unclear whether any functional antecedence basic exists for the phrase "path satisfies *prescribed constraints defined in a query"* and "nodes traversed in the at least one path generated by the path finder tool.", so that proper patentable weight can be given in a claim which normally requires active/positive citation.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 116-139 (system) and 95-115 (article) are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over CHEN.

As for independent system claim 116, CHEN discloses a system, implemented in a data processing system, for interactively viewing enterprise metadata, the system comprising:

a) a first mechanism [for providing a data structure in the form of a directed graph, with nodes of the directed graph representing asset metadata for enterprise data assets and directed edges of the directed graph between nodes representing relationships between the asset metadata, wherein a single directed edge from a first node of the directed graph to a second node of the directed graph indicates that the first node belongs to the second node, and wherein a pair of directed edges in both directions between the first node and the second node indicates a mapping between the first node and the second node];

{see Figs. 14, 17A, 17B, 17C or 17, pars. [0080 "***a metadata repository***", 0179-0181]}

b) a second mechanism [for displaying at least one path within the directed graph, the at least one path generated using a path finder tool, wherein the at least one path satisfies prescribed constraints defined in a query]; and

{see Figs. 17A, 17B, 17C or 17, pars. [0179-0181]}

c) a third mechanism for [generating a report about the directed graph, wherein the report consists of asset metadata that correspond to the nodes traversed in the at least one path generated by the path finder tool].

{see Figs. 6C "***Report***", 7F, 10A, pars. [0066]}

Note that the bracket, "[...]" is used to indicate "intended use" language in an apparatus claim.

Alternatively, the use of other related features with respect to a graph, such as type of edges, features with respect to the edges, etc., would have been obvious to a skilled artisan as mere using other well known features about the edges to show various relationship types.

As for dep. claims 117-118 (part of 116 above), which deal with communication or viewing mechanism, i.e. an interface, these are taught in Fig. 1, (03), 3A and 6D. Note that manner of operating the interface "is accessed", has no patentable weight in a system claim as indicated above.

As for dep. claims 119-125, 127-128 (part of 116 above), which deal features about the report or information or the types of information, i.e. analysis, these are taught in pars. [0027, 0113]. Furthermore, they are merely "displaying matters" which is similar

to “printed matters” and they are considered as non-functional descriptive material. However, USPTO personnel need not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate.

See ** *Lowry*, 32 F.3d **>at< 1583-84, 32 USPQ2d **>at< 1035 **; and *In re Ngai*, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004).

Note that the difference in the content of the displaying (or printed) matter, text or lines or graphical elements such as square, rectangular boxes, will not distinguish the claimed product (text) from the prior art. See *In re Ngai*, 367 F. 3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Circuit 2004). *In re Gulack*, 703 F. 2d 1381, 1385-86, 217 USPQ 401, 404 (FC 1983).

2106.01 Computer-Related Nonstatutory Subject Matter [R-6]

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory and should be rejected under 35 U.S.C. 101. In addition, USPTO personnel should inquire whether there should be a rejection under 35 U.S.C. 102 or 103. USPTO personnel should determine whether the claimed nonfunctional descriptive material be given patentable weight. USPTO personnel must consider all claim limitations when determining patentability of an invention over the prior art. *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983). USPTO personnel may not disregard claim limitations comprised of printed matter. See *Gulack*, 703 F.2d at 1384, 217 USPQ at 403; see also *Diehr*, 450 U.S. at 191, 209 USPQ at 10. However, USPTO personnel need not give patentable weight to printed matter absent a new and unobvious

functional relationship between the printed matter and the substrate. See ** *Lowry*, 32 F.3d **>at< 1583-84, 32 USPQ2d **>at< 1035 **; *In re Ngai*, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004).

As for dep. claim 126 (part of 116 above), which deal with a fourth mechanism, this is taught in Figs. 1, or 17A or 17C.

As for dep. claims 129-133 (part of 116 above), which deal with a fifth mechanism, this is taught in Figs. 6B "Web Reporting System" or 10A-10C.

As for dep. claims 134-135 (part of 116 above), which deal with a sixth mechanism, this is taught in Figs. 1, 3A, 7E.

As for dep. claim 136 (part of 116 above), which deal with a feature of the graph, this is taught in Figs. 1, or 17A or 17C.

As for dep. claims 137-139 (part of 116 above), which deal features about the report or information or the types of information, i.e. analysis, these are taught in pars. [0027, 0113]. Furthermore, they are merely "displaying matters" which is similar to "printed matters" and they are considered as non-functional descriptive material. However, USPTO personnel need not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate.

Similarly, independent article claim 95, which basically has the same limitation as in independent system claim 116, is rejected over the computer program product having computer usable program code stored in a compute-readable storage medium of CHEN, see Figs. 1-2, 17A, 17C, for carrying the rejection of claim 116 as shown above.

, with communication or viewing mechanism, i.e. an interface, these are taught in Fig. 1, (03), 3A and 6D. Note that manner of operating the interface "is accessed", has no patentable weight in a system claim as indicated above.

21. Claims 49-94 (method), 95-115 (computer program product), and 116-139 (system) are rejected under 35 U.S.C. 103(a) as being unpatentable over CHEN in view of COPPERMAN ET AL.

As for independent claims 49 (method), 95 (CRP) and 116 (system), CHEN fairly discloses a method and a computer-readable storage medium, implemented in a data processing system, for interactively viewing enterprise metadata, comprising:

a) providing a data structure that is stored in a memory in the form of a directed graph, with nodes of the directed graph representing asset metadata for enterprise data assets and directed edges of the directed graph between nodes representing relationships between the asset metadata,

{see Figs. 17A, 17C, 1, 3A, }

b) displaying, on a display, at least one path within the directed graph, the at least one path, wherein the at least one path satisfies prescribed constraints defined in a query; and

{see Figs. 17A, 17C, 1, 3A, }

c) generating a report about the directed graph, wherein the report is displayed on the display and consists of asset metadata that correspond to the nodes traversed in the at least one path.

{see Figs. 6C "***Report***", 7F, 10A, pars. [0066]} .

As for the limitation of the path generated using a path finder tool" in (b) and (c), this is inherently included in the teachings of CHEN above in order to generate various relationships between the nodes as shown in Figs. 17A, B and C.

Therefore, **CHEN** appears to teach the claimed invention except for the limitations of " wherein a single directed edge from a first node of the directed graph to a second node of the directed graph indicates that the first node belongs to the second node, and wherein a pair of directed edges in both directions between the first node and the second node indicates a mapping between the first node and the second node" in (a) and "

In a similar system/method for implementing a knowledge information system with orderly storage information, **COPPERMAN ET AL** discloses:

a) providing a data structure that is stored in a memory in the form of a directed graph, with nodes of the directed graph representing asset metadata for enterprise data assets and directed edges of the directed graph between nodes representing relationships between the asset metadata, wherein a single directed edge from a first node of the directed graph to a second node of the directed graph indicates that the first node belongs to the second node, and wherein a pair of directed edges in both

directions between the first node and the second node indicates a mapping between the first node and the second node; and

{see Figs. 4, 6, 11, 12 and col. 10, lines 20-60, col. 13}

b) displaying, on a display, at least one path within the directed graph, the at least one path generated using a path finder tool, wherein the at least one path satisfies prescribed constraints defined in a query; and

{see Figs. 4, 6, 11, 20-21, col. 2, lines 32-60, col. 10, lines 20-60, and col. 13} Therefore, it would have been obvious to a person having ordinary skill in the art (herein after as "PHOSITA") at the time of the invention was made to modify element (a) of CHEN to include the various features of the graph as taught by COPPERMAN ET AL in order to provide a faster and more relevant response than a content-based retrieval as taught in col. 2, lines 32-57.

As for dep. claims 50-66, 68-71, 83-88 (part of 49 above), 96-102, 104-105, 114-115 (part of 95 above), 119-125, 127-128, 136-139 (part of 49 above), which deal with the features of the report or the results of the documents or report, these appear to be taught on {see Figs. 6C "***Report***", 7F, 10A, pars. [0010, 0027, 0066, 0113]}. Furthermore, the generation of the report is a function of the request, and it would have been obvious to generate a variety of different types of reports based on the variety of the requests. Also, the features of the reports or the information on the reports are considered as NFDM and having no patentable weight for the same reason set forth above.

As for dep. claims 67-68 (part of 49 above), 103-104 (part of 95 above), 126-127 (part of 49 above), which deal with well known database management parameters, i.e. identifying redundancies among data and a plan for eliminating them, these are inherently included in the database management of CHEN /COPPERMAN ET AL or would have been obvious to do so to maximize the database efficiency or keeping storage space from filling up with redundant or unneeded data.

As for dep. claims 72-79 (part of 49 above), 106-113 (part of 95 above), 129-135 (part of 49 above), which deal with program code instructions types, these are taught on Figs. 2, 10A, 11, 14, 15A, 16B, 17B, claims 21-30 of CHEN.

As for dep. claims 77-78 (part of 49 above) 111-112 (part of 95 above), 134 (part of 49 above), which deal with the features of generating a request, these are taught on Fig. 1, 3B, 5B, of CHEN and Figs. 3, col. 2, lines 30-67, cols. 23-24 of COPPERMAN ET AL.

As for dep. claims 79-82 (part of 49 above), 113 (part of 95 above), 135 (part of 49 above), which deal with the features of the graph, i.e. nodes, ontology model, etc., these are taught on Figs. 17A-17C, pars. [0179-0182] of CHEN and cols. 9-10 and Figs. 4, 6, 11, 12 and 20 of COPPERMAN ET AL.

As for dep. claims 89-91 (part of 49 above), which deal with well known user access/restriction parameters with respect to data/metadata, these are taught on Figs. 6A, pars. [0021], [0146-0168] of CHEN.

As for dep. claims 92-94 (part of 49 above) which deal with well known displaying parameters with respect to data/metadata, these are taught on Figs. 7B, 17B, 17A and 17C of CHEN and Fig. 4, cols. 10-11 of COPPERMAN ET AL. .

Response to Arguments

22. Applicant's arguments with respect to claims 49-139 have been considered but are moot in view of the new ground(s) of rejection which are caused by applicant's amendments. Applicant's comment with respect to the 101 rejection of claims 49-95 is noted, but not found persuasive in view of the above rejections, reasoning and responses by the examiner.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

No claims are allowed.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct@uspto.gov. Should you have any questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

In receiving an Office Action, it becomes apparent that certain documents are missing, e. g. copies of references, Forms PTO 1449, PTO-892, etc., requests for copies should be directed to Tech Center 3600 Customer Service at (571) 272-3600, or e-mail CustomerService3600@uspto.gov .

Any inquiry concerning the merits of the examination of the application should be directed to Dean Tan Nguyen at telephone number (571) 27**2**-6806. My work schedule is normally Monday through Friday from 6:30 am - 4:00 pm. I am scheduled to be off every other Friday. Should I be unavailable during my normal working hours, my supervisor Janice Mooneyham can be reached at (571) 272-6805. The main FAX phone numbers for formal communications concerning this application are **(571) 273-8300**. My personal Fax is (571) 27**3**-6806. Informal communications may be made, following a telephone call to the examiner, by an informal FAX number to be given.

/Tan Dean D. Nguyen/
Primary Examiner, Art Unit 3689